

REMARKS/ARGUMENTS

This is a preliminary amendment in a RCE Application. The Office Action mailed 3/13/2003 has been carefully reviewed. Reconsideration of this application, as amended and in view of the following remarks, is respectfully requested. The claims presented for examination are claims 13-25. Applicants previously elected group II, claims 13-25 for examination in this application. The non-elected claims are group I, claims 1-12 and group III, claims 26-34. Applicants canceled claims 1-12 and 26-34 subject to Applicants right to file divisional applications.

35 USC 103 Rejection

In the Office Action mailed March 13, 2003, the Examiner rejected claims 13-25 under 35 USC 103(a) "as being unpatentable over WO 89/01842 and further in view of Inagawa et al (US 5,166,493)."

Applicants respectfully traverse the rejection of dependent claims 13-25. The cited references do show the claimed combination. There is no teaching or suggestion in the references to form a proper combination. The cited references do not provide a teaching of the claimed combination.

The primary reference cited by the Examiner, WO 89/01842, is a system that combines the beams. The abstract of WO 89/01842 states, "wherein two or more laser beams are combined along a common path and preferably focused on the desired drilling site." As stated in WO 89/01842, "The multiple electromagnetic wave beams 11 and 21 of the present invention are then directed, preferably by a beam combining mirror 30 as shown in the Figure, along a common wave path" and "the combined beam is then preferably focused onto the drilling site 50 by a focusing mechanism 40 such as a focusing lens."

The present invention as defined by claims 13-25 is not a system that combines the beams; therefore, WO 89/01842 is not a reference against the patentability of the present invention. Further, since WO 89/01842 is a system that combines the beams, it can not be used with other references that utilize beams that are not combined.

The secondary reference, U. S. Patent No. 5,166,483 Inagawa et al, is a system that uses two laser beams focused along the same axis. The abstract of secondary reference, U. S. Patent No. 5,166,483 Inagawa et al, states, "A first step of the process is high speed rough boring by thermal processing using a long wavelength laser, and a second step is an optical chemical processing using a short wavelength laser for smoothing the bore wall." As further stated in U. S. Patent No. 5,166,483 Inagawa et al, "The above three lasers 2, 4 and 6 and two converging lenses 8 and 10 have an identical optical axis."

The present invention as defined by claims 13-25 is not a system that is focused along the same axis and is not a valid reference against the patentability of the present invention. The present invention as defined by claims 13-25 specifies a "second trepanning laser beam having a spot diameter substantially smaller than said diameter of said hole" and "tracing said second trepanning laser beam along said diameter and at said hole being formed for expanding said ragged hole having a diameter slightly smaller than said diameter of said hole so that said hole is at said diameter."

Also, the secondary reference, U. S. Patent No. 5,166,483 Inagawa et al, is a system wherein the second laser beam forms a hole having a diameter smaller than the diameter of the hole formed with the first laser beam. U. S. Patent No. 5,166,483 Inagawa et al, states, "if the desired diameter D_1 of the through hole is set to 0.1 mm (i.e., 100 microns) and the thickness of plating to 10 to 20 microns, the beam diameter of the short wavelength laser beam in the second step is

reduced such that the desired hole diameter obtained in the processing of the second step is 70 to 80 microns." Col. 4, lines 12-18.

The present invention as defined by claims 13-25 specifies, "directing and trepanning by tracing said second trepanning laser beam along said diameter and at said hole being formed for expanding said ragged hole having a diameter slightly smaller than said diameter of said hole so that said hole is at said diameter." Since the claimed invention utilizes the second laser beam to enlarge the hole to the desired diameter, the secondary reference, U. S. Patent No. 5,166,483 Inagawa et al, is not a valid reference against the patentability of the present invention.

Applicants respectfully submit that the cited references do show the claimed combination, there is no suggestion in the references to form a proper combination, nor do the cited references provide a teaching of the claimed combination.

SUMMARY

The undersigned respectfully submits that in view of the foregoing amendments and the remarks, the rejections of the claims raised in the Office Action dated 3/13/2003 have been fully addressed and overcome.

The Primary Reference WO 89/01842

WO 89/01842, does not show the invention defined by claims 13-25. WO 89/01842 combines the beams whereas the claimed invention defined by claims 13-25 does not combine the beams.

Since the primary reference, WO 89/01842, is a system that combines the beams, it can not be used with other references that utilize beams that are not combined.

The Secondary Reference U. S. Patent No. 5,166,483 Inagawa et al

U. S. Patent No. 5,166,483 Inagawa et al, the secondary reference, does not show the invention as defined by claims 13-25.

U. S. Patent No. 5,166,483 Inagawa et al, uses two laser beams focused along the same axis. The invention as defined by claims 13-25 does not uses two laser beams focused along the same axis. The invention as defined by claims 13-25 traces the second trepanning laser beam along the diameter of the hole and is not focused along the same axis as the first laser beam.

U. S. Patent No. 5,166,483 Inagawa et al, uses the second laser beam to form a hole having a diameter smaller than the diameter of the hole formed with the first laser beam. The invention as defined by claims 13-25 does not use the second beam to form a smaller hole. The claimed invention as defined by claims 13-25 actually enlarges the hole with the second laser beam and forms a larger hole.

The present application is believed to be in condition for allowance. It is respectfully requested that this application be reconsidered, that the claims be allowed, and that this case be passed to issue. If it is believed that a telephone conversation would expedite the prosecution of the present application, or clarify matters with regard to its allowance, the Examiner is invited to call the undersigned attorney at (925) 424-6897.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Eddie E. Scott", is written over a horizontal line.

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